GRANT SUMMARY

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Use the tab and arrow keys to move through the form. If field is not applicable, please put N/A in field.

Date filled out: 18 June 2007

Grant Information: Please use complete phrases/sentences. Fields will expand as you type.

1. **Grant Agreement Number:** 06-285-557-0

2. **Project Title:** Salton Sea Ecosystem Monitoring

3. **Project Purpose – Problem Being Addressed:** The Salton Sea, California, is an inland terminal water body that was created in the early 1900s and currently receives inflow from agricultural runoff and several major drainage channels, including the New and Alamo Rivers. The Salton Sea has become one of the most important wetlands to aquatic birds in southwestern North America. Shoreline habitats support large numbers of aquatic birds that include species of concern.

Current planning alternatives for the Salton Sea restoration recognize that reduced future inflows will cause the lake level to recede from its current elevation, dewatering vast acreages of key shallow water areas important to migratory birds. Shallow water wetlands are attractive to wildlife, especially migratory birds and are under consideration as a major focus of restoration planning for a future Salton Sea scenario.

The focus of this project is to build re-created wetlands by blending waters from an agricultural drain with Salton Sea water and monitor chemical and biological response. This project will provide the State of California, Bureau of Reclamation, and other planners with critical information on biological and chemical factors associated with blended waters to determine if this approach could be utilized in restoration efforts to maximize wildlife use and minimize wildlife risks relative to shallow water wetlands.

An evaluation of recreated shallow wetlands is needed because the ecological response to these recreated wetlands is unknown, particularly the biological response of avian resources to these sites. Ecological traps occur when organisms choose habitat that result in reduced survival or reproduction because innate avoidance cues no longer correlate with habitat quality, particularly human-altered environments. Subsequent population declines or even extinctions can occur. The project goal is to document nesting and post-hatching survival at experimental, recreated wetlands to determine if these wetlands provide beneficial habitat or are ecological traps due to, for example, reduced productivity from elevated contamination.

Contaminant exposure (i.e., Se and DDE) at these sites may pose a risk to productivity or survival. The agricultural runoff that sustains the Salton Sea may contain contaminants, e.g., pesticides or potentially toxic levels of elements. Possible contaminants of concern include selenium (Se), arsenic (As), boron (B), copper (Cu), zinc (Zn), and DDE, based on previous investigations at the Salton Sea. With a potential increase of several thousand hectares in shallow water wetlands associated with rehabilitation efforts and the importance of these habitats at the Salton Sea to millions of migratory birds annually, baseline criteria for the biological characteristics of these systems must be established.

4. **Project Goals**

   a. **Short-term Goals:** This study addresses three main goals: (1) Document chemical, nutrient, and contaminant patterns within the recreated wetland relative to water and sediment dynamics and invertebrate community development. We will characterize the aquatic invertebrate community and colonization patterns within the pilot wetland relative to expected temporally dynamic water and sediment chemistry parameters preceding equilibration. (2) Conduct field assessments of contaminant effects on avian reproduction by assessing nest success, egg hatchability, and post-hatch survival at the recreated wetlands. We will evaluate the fate of chicks after hatching for up to three species of breeding birds on-site. (3) Model wildlife ecological risk based on results of recreated and reference wetland analyses to determine suitability of other shoreline areas for future wetland creation.

b. **Long-term Goals:** Our goal is to provide information to managers about the value and potential risks of wetland recreation along the Salton Sea shoreline to aquatic birds. This information will aid in making decisions regarding the future management of Salton Sea shoreline.

5. **Project Location:** (lat/longs, watershed, etc.) Salton Sea, California. Latitude 33.218 N, Longitude 115.587 W

a. **Physical Size of Project:** (miles, acres, sq. ft., etc.) The recreated wetlands in this study cover an area of approximately 100 acres. Reference sites range from 10 to 50 acres.

b. **Counties Included in the Project:** Imperial County

c. **Legislative Districts:** (Assembly and Senate) Assembly District 80, Senate District 40

6. **Which SWRCB program is funding this grant?** Please "X" box that applies.

☐ Prop 13 ☒ Prop 40 ☒ Prop 50 ☐ EPA 319(h) ☐ Other

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Grant Time Frame:

From: December 31, 2006 **To:** March 1, 2009

Project Partner Information: USGS

Nutrient and Sediment Load Reduction Projection: (If applicable) N/A

Please provide a hard copy to your Grant Manager and an electronic copy to your Program Analyst for SWRCB website posting. All applicable fields are mandatory. Incomplete forms will be returned.